

New species of *Filippia* Targioni Tozzetti, 1868 (Homoptera: Coccoidea: Coccidae) from South Africa

by

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Filippia gemina spec. nov.; *F. polychaeta* spec. nov.; *F. stenochaeta* spec. nov.; and *F. strigosa* spec. nov. are described. A key for the separation of all six species of the genus *Filippia* so far known from South Africa is included.

The status of *Lichtensia asparagi* Brain, 1920, and *L. peringueyi* Joubert, 1925, is also briefly reviewed.

With the addition of the four new forms described in this paper, the number of species of the genus *Filippia* Targioni Tozzetti, 1868, from South Africa is raised to six. They may be separated by using the following provisional key:

- 1 With one to five marginal spines or setae between the anterior and posterior stigmatic clefts 2
- With more than five spines or setae between the stigmatic clefts 3
- 2 Legs with no tibio-tarsal articulatory sclerosis and with no tibio-tarsal free articulation **spanochaeta**
- All legs with a well developed tibio-tarsal articulatory sclerosis and with a free tibio-tarsal articulation **strigosa**
- 3 Marginal setae finely pointed 4
- Marginal setae with the apex dentate, rounded or notched 5
- 4 Marginal setae finely setose and variously curved; from 60 to 100 setae occur between the anterior and posterior stigmatic clefts **polychaeta**
- With no more than 20-30 setae between the stigmatic clefts; all straight, spiniform **gemina**
- 5 Marginal setae flattened with the apex dentate **carissae**
- Marginal setae digitiform, with the apex rounded or notched **chilianthi**

The two species—*carissae* and *chilianthi*—originally introduced by Brain (1920) were fully redescribed and illustrated a few years ago (De Lotto, 1967).

Following Steinweden's (1929) and Borchsenius' (1957) conclusions that the genus *Lichtensia* Signoret, 1873, is a subjective synonym of *Filippia*, the latter should include also *Lichtensia asparagi* Brain, 1920, and *L. peringueyi* Joubert, 1925. Two syn-types of *asparagi* are available from Brain's collection. Both are provided with some large dorsal submarginal pores which occur neither in the type-species of *Filippia*, nor in any of its congeneric representatives from South Africa, nor in the type-species of *Lichtensia*. As for other body structures nothing definite can be said owing to the poor condition of the material at hand. In 1928 Lindinger (1931) re-named the species *Filippia braini* on the ground of its junior secondary homonymy with *F. asparagi* (Giard, 1894). I am unable to give any opinion on Lindinger's action because I am not acquainted with the identity of Giard's species. The classificatory status of *L. peringueyi* is also uncertain as no types or other material have been seen.

The type-series of all species described in this paper are deposited in the National Collection of Insects, Plant Protection Research Institute, Pretoria.

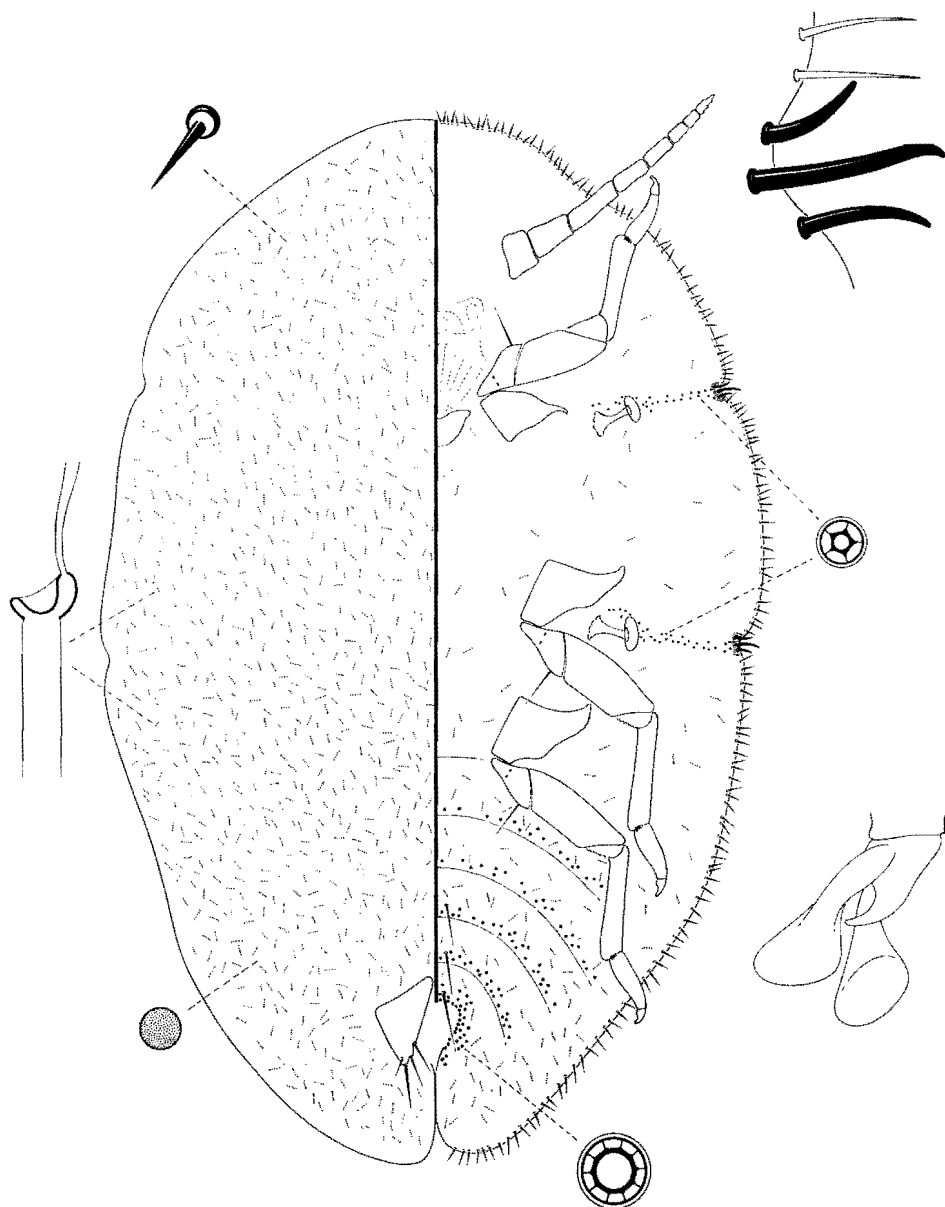


Fig. 1. *Filippia gemina* spec. nov.

Filippia gemina spec. nov., fig. 1

Living adults not seen. Immature adult females, when mounted, elliptical in outline with the anal opercula set close to the extremity of the abdomen; dimension of the graphotype: length 1,7 mm; width 1,1 mm. Dorsal derm membranous with numerous ducts of the clistostomatic type evenly distributed. Dorsal setae small, slender and finely pointed; rather few. Para-opercular pores small, flat with a granulate surface; they are arranged in an irregular elongate group in front of the anal opercula; others, somewhat smaller, are scattered all over the dorsum without any pattern. Submarginal pores absent. Anal opercula roughly quadrate with the latero-anterior margin concave and the latero-posterior one curved or sinuate; outer angle pointed; length 135–155 μ , combined width 160–175 μ ; each operculum carries a robust longish apical seta, and three small subapical ones. Marginal setae 20–30 μ long, all spiniform; from 22 to 29 setae are inserted on the margin between the anterior and posterior stigmatic clefts. Stigmatic clefts shallow with their edge moderately sclerotized; stigmatic spines three; median 45–65 μ long, laterals 30–35 μ ; the latter are always bent or curved divergently. Ventral side of the body with numerous multilocular pores crowded around the genital opening and extending in irregular transverse rows on the preceding segments of the abdomen. Clistostomatic ducts rather few, tending to become progressively scarcer and more widely separated from one another toward the head, where they may be lacking altogether. Quinquelocular pores set in transverse bands two pores wide. Legs all well developed with a free tibio-tarsal articulation and with a tibio-tarsal articulatory sclerosis; claws without denticle; ungual digitules attaining same size and shape, both strongly knobbed at the apex; dimensions of L (iii): trochanter plus femur 230–265 μ , tibia 170–190 μ *, tarsus 90–105 μ . Antennae with eight segments; total length 390–455 μ . Fold of the ano-genital invagination with altogether four rather slender setae. Pregenital segments (viii) to (vi) each with a couple of robust setae; other longish setae occur on the mid-area of the thorax.

MATERIAL EXAMINED. NATAL. St Lucia Lake: 23.viii.1971, ♀ holotype and 5 ♀♀ paratypes collected on *Pterocelastrus echinatus* N.E. Br. (Celastraceae) (*P. Insley*); coll. No. H.C. 4438.

Filippia polychaeta spec. nov., fig. 2

No information is available on the habit of the living adults. The immature adult females, when mounted, are roughly elliptical in outline with the anal opercula situated near the posterior end of the body; dimensions of the graphotype: length 1,8 mm, width 1,1 mm. Dorsal derm membranous with numerous clistostomatic ducts uniformly distributed. Dorsal setae minute, slender and finely pointed; few. Dorsal pores small, flat with a granulate surface; few and scattered. Other pores, similar in size and shape, are set in an irregular row in front of the anal opercula. Submarginal pores lacking. Anal opercula together roughly quadrate but slightly divergent, with the outer angle broadly rounded; length 160–180 μ , combined width 190–225 μ ; each operculum carries one apical and three subapical longish, finely pointed setae. Marginal setae finely setose, variously curved, 45–65 μ long; they are set in fringe two or three setae wide; from 60 to 100 setae occur between the anterior and posterior stigmatic clefts. Stigmatic

* When tibia and tarsus are free-articulated, their measurements are given separately.

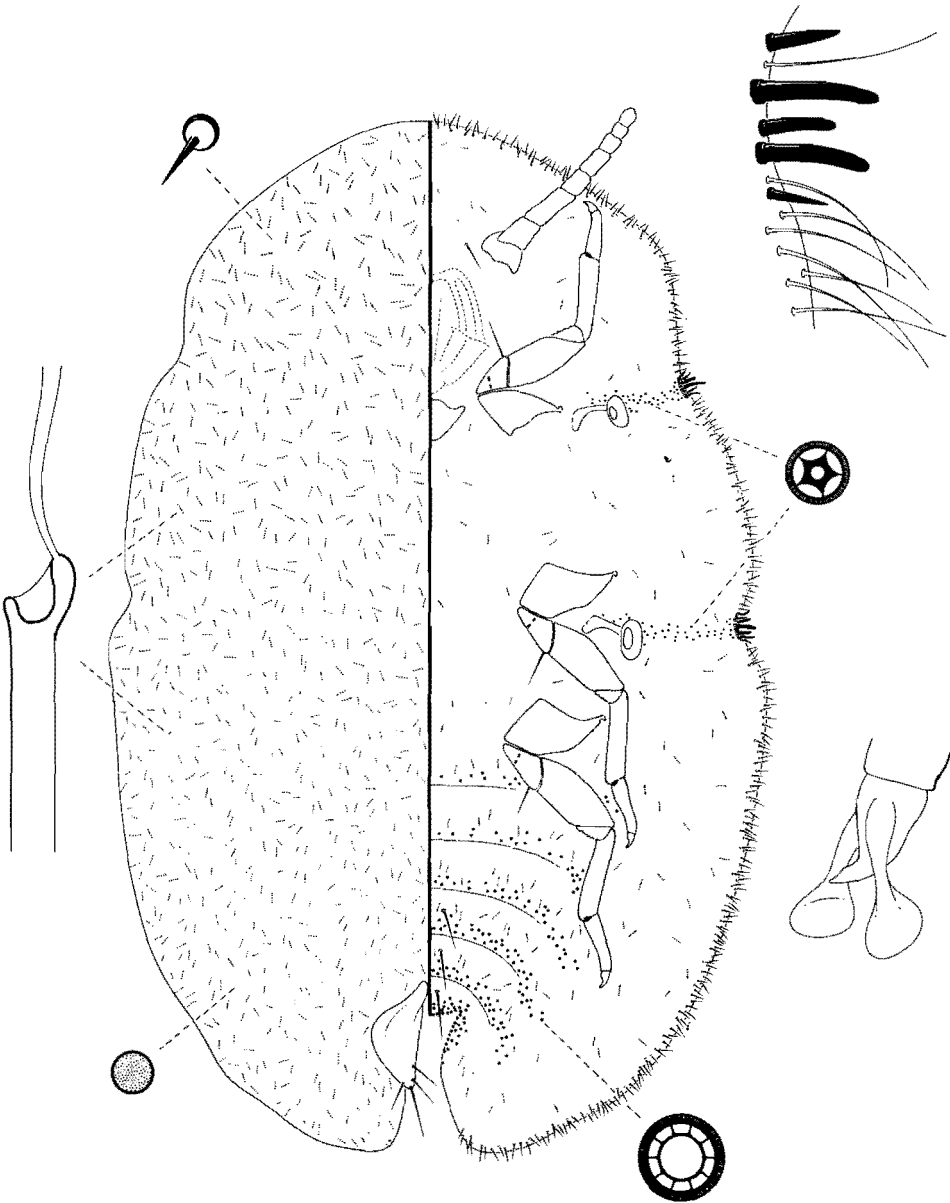


Fig. 2. *Filippia polychaeta* spec. nov.

clefts shallow, with their edge moderately sclerotized. Stigmatic spines very variable in number, shape and size. Occasionally there may be only one spine or as many as 14, but more commonly there are seven or eight; in shape they are conical or cylindrical, straight or curved, stout or slender; in size they range from 15 to 30 μ in length; among them are often intermingled a few marginal setae. Ventral side of the body with numerous multilocular pores about the genital opening and extending in transverse rows on all preceding abdominal segments. Clistostomatic ducts few and scattered. Quinquelocular pores arranged in transverse bands two or three pores wide. Legs all well developed with a free tibio-tarsal articulation and with a tibio-tarsal articular sclerite; claws with a small denticle; ungual digitules attaining same size and shape, both strongly knobbed apically; dimensions of L(iii): trochanter plus femur 230–260 μ , tibia 140–175 μ , tarsus 85–100 μ . Antennae formed with eight stoutish segments, occasionally reduced to seven due to the fusion of the 3rd and 4th segments; total length 315–370 μ . Fold of the ano-genital invagination with altogether 4 or 6 setae. Pregenital segments (viii) to (vi) each with a couple of robust setae.

MATERIAL EXAMINED. CAPE PROVINCE. Cape Town: 24.x.1969, ♀ holotype and 8 ♀♀ paratypes collected on *Berzelia lanuginosa* Brongn. (Bruniaceae) (P. Insley); coll. No. H.C. 4300.

Filippia spanochaeta spec. nov., fig. 3

Habit of the living adults not recorded. Mounted immature adult females roughly elliptical in outline with the anal opercula set very close to the extremity of the abdomen; dimensions of the graphotype: length 1,5 mm, width 1,0 mm. Dorsal derm membranous with numerous clistostomatic ducts evenly distributed. Dorsal setae lacking. Dorsal pores very small, few and widely scattered. Para-opercular pores flat or flattish with a granulate surface, rather variable in size; they are set in a loose irregular group on the median and submedian areas in front of the anal opercula. Submarginal pores absent. Anal opercula together quadrate with the outer angle rounded; length 125–145 μ , combined width 170–180 μ ; each operculum is provided with one apical and three subapical longish setae. Marginal setae digitiform, that is slightly tapering toward the apex which is rounded; length 20–30 μ ; three or four setae normally occur between the anterior and posterior stigmatic clefts; occasionally there may be only one or as many as five. Stigmatic clefts very shallow with their edge membranous. Stigmatic spines two, both attaining a length of 30–35 μ ; in shape they are stoutly conical with the apex bluntly rounded; straight or curved. Ventral side of the body with numerous multilocular pores around the genital opening and on all preceding segments of the abdomen; other are set in small loose groups near the attachment of the fore and middle legs. Clistostomatic ducts not numerous and uniformly distributed. Quinquelocular pores occurring in two pores wide bands. Legs rather short with no tibio-tarsal free articulation and with no tibio-tarsal articular sclerite; claws with a minute denticle, at times entirely obsolete; ungual digitules not differentiated in shape and size, both strongly knobbed at the apex; dimensions of L(iii): trochanter plus femur 125–160 μ , tibia plus tarsus 180–210 μ . Antennae with seven short stoutish segments; total length 200–230 μ . Fold of the ano-genital invagination with four setae. Pregenital (viii) segment with a couple of robust setae on the median area; similar setae also occur on the preceding (vii) segment, but they are noticeably shorter and slender.

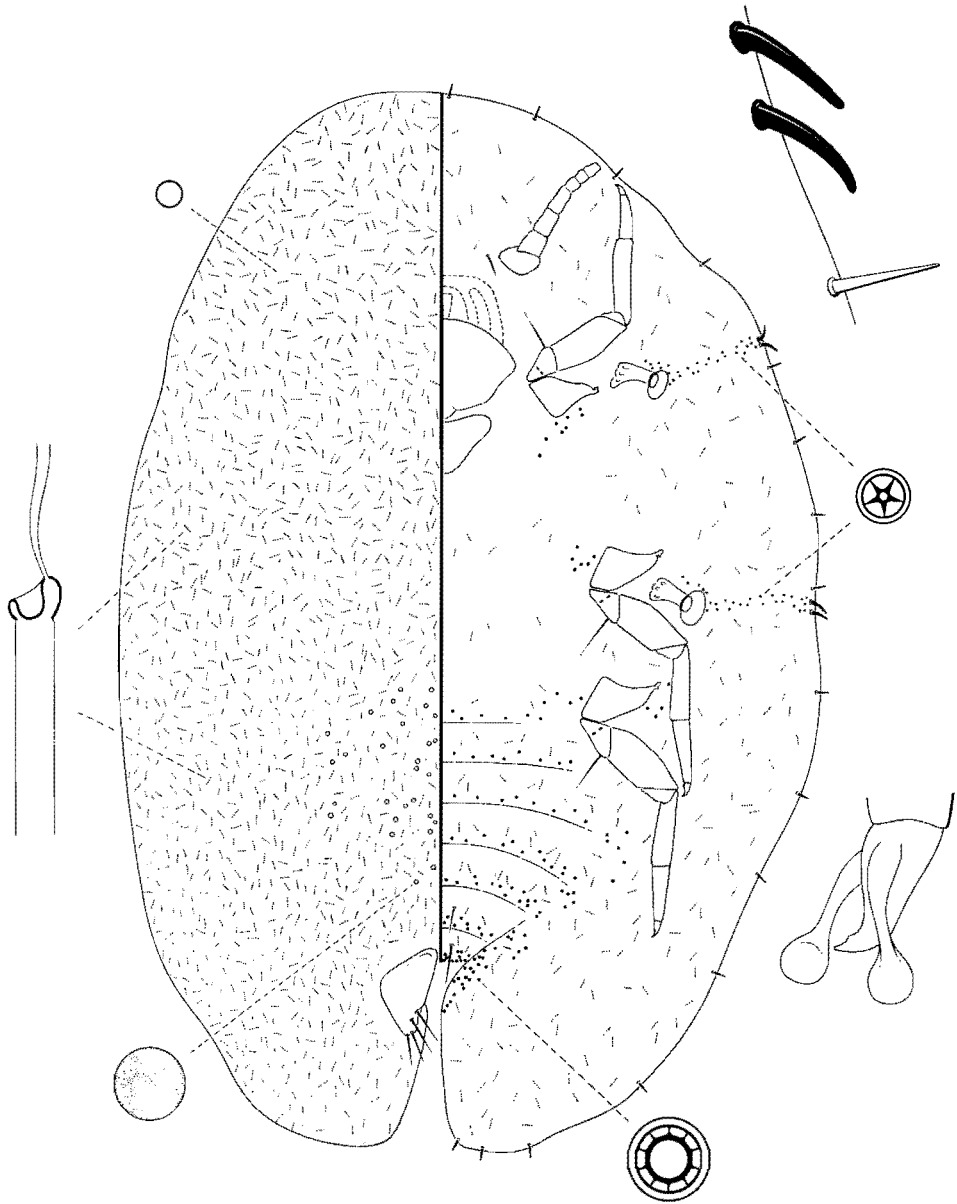


Fig. 3. *Filippia spanochaeta* spec. nov.

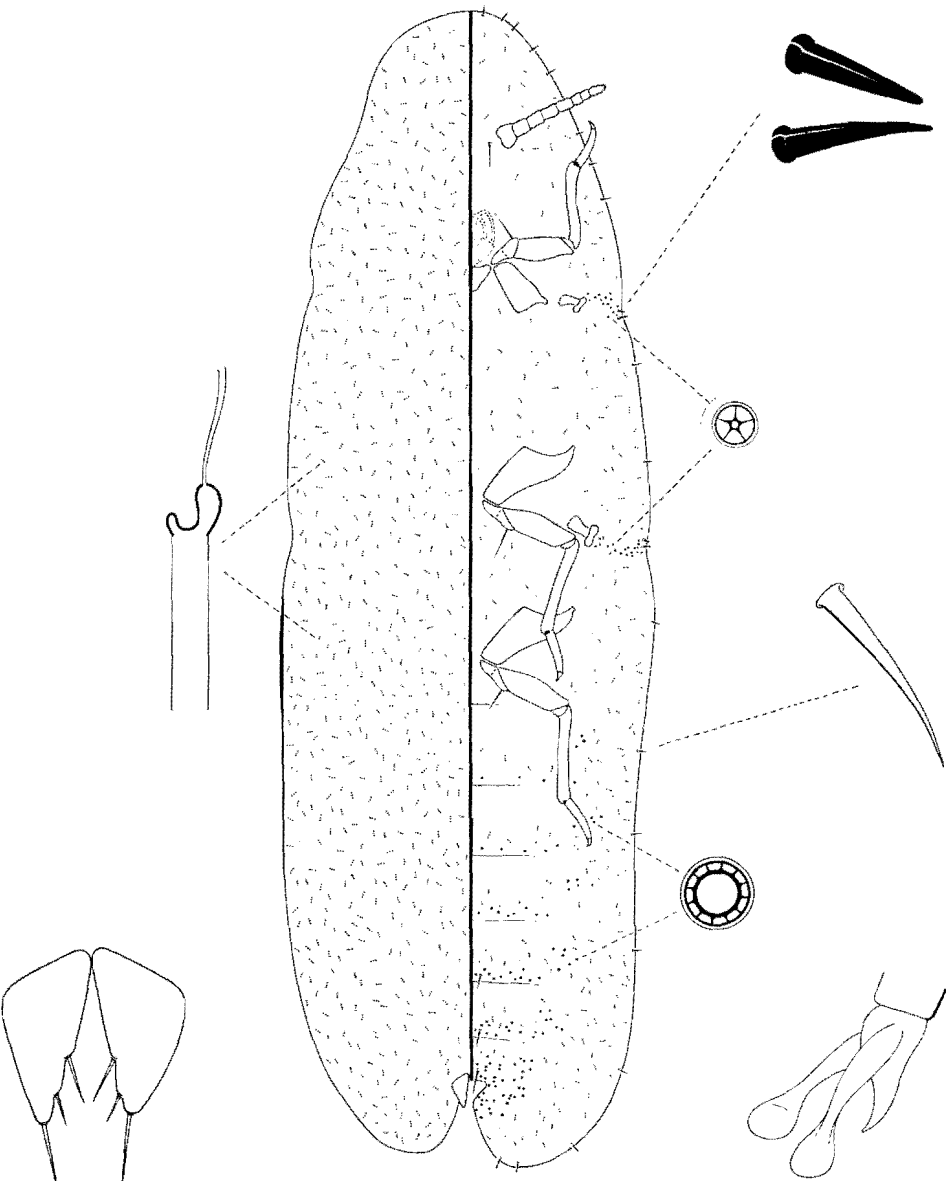


Fig. 4. *Filippia strigosa* spec. nov.

MATERIAL EXAMINED. ORANGE FREE STATE. Ficksburg: 11.xi.1966, ♀ holotype and 15 ♀♀ paratypes collected on *Aster filifolius* Vent. (Compositae) (G. De Lotto); coll. No. H.C. 4124.

***Filippia strigosa* spec. nov., fig. 4**

Habit of living adults unknown. The two specimens on which the following description is based, though mounted at an early stage of maturity, are somewhat distorted on the dorsum owing to the high convexity of the body, very likely due to their position on the host plant. Both specimens are very elongate elliptical in outline with the anal opercula set close to the extremity of the abdomen; dimensions of the graphotype: length 3.1 mm, width 0.9 mm. Dorsal derm membranous with numerous clistostomatic ducts evenly distributed. Dorsal setae and dorsal pores apparently lacking. Submarginal pores absent, as common to the genus. Anal opercula roughly quadrate with the latero-anterior margin straight; the latero-posterior one also straight or curved; outer angle rounded; length 95–100 μ , combined width 90–100 μ ; each operculum carries a longish robust apical seta; two subapical setae, also robust but noticeably shorter, are inserted on the inner edge. Marginal setae small, spiniform, straight or curved, 30–35 μ long; two or three setae occur on the margin between the anterior and posterior stigmatic clefts. Stigmatic clefts shallow, with their edge not sclerotized. Stigmatic spines two, both very variable in shape, being conical with the apex bluntly or finely pointed, or cylindrical; straight or curved; they may be set close or rather apart from each other; length 30–35 μ . Ventral side of the body with rather numerous multilocular pores near and around the genital opening; others are arranged in transverse rows on the preceding segments of the abdomen. Clistostomatic ducts fairly numerous all over the venter, but tending to be fewer toward the head. Quinquelocular pores set in irregular transverse bands. Legs all well developed but rather slender with a free tibio-tarsal articulation and with a strong tibio-tarsal articulatory sclerosis; claws without denticle; ungual digitules similar in size and shape, both knobbed apically; dimensions of L(iii): trochanter plus femur 250–260 μ , tibia 345–350 μ , tarsus 120 μ . Antennae 8-segmented; total length 310–320 μ . Fold of the ano-genital invagination with apparently two setae only. Pregenital segments (viii) and (vii) each with a couple of setae on the median area.

MATERIAL EXAMINED. TRANSVAAL. Rustenburg: 10.xi.1967, ♀ holotype and 1 ♀ paratype collected on an unidentified grass or reed (*A. L. Capener*); coll. No. H.C. 2958.

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ERRATA

In the article "On two genera of mealybugs (Homoptera: Coccoidea: Pseudococcidae)" by G. De Lotto published on pp. 109–115 of No. 1 of the present volume (37) of the Journal, the blocks of figs 2 and 3 were accidentally interchanged. Therefore the diagram of fig. 2 represents *Phenacoccus stelli* (Brain) and that of fig. 3 *Phenacoccus proximus* spec. nov.